

CLAIMS

1. A method for gas stunning of poultry for slaughter arriving at the poultry slaughter-
house in transport crates, where gas stunning of the animals is effected while they are
still in transport crates, and where the transport crates comprising the animals, are
conveyed successively by means of a number of conveyors through a stunning cham-
ber, *characterised* in that the influence of the gas for stunning the animals is
adjusted by shortening or prolonging the conveying time and/or the conveying route of
the said transport crates through the stunning chamber.

2. A method according to claim 1, *characterised* in that the adjustment of the
conveying time through the stunning chamber is effected by increasing or reducing the
speed of the said conveyors.

3. A method according to claim 1, *characterised* in that the adjustment of the
conveying route through the stunning chamber is effected by lowering or lifting a sub-
stantially horizontal conveyor running herein, which conveyor provides for the con-
veying of the transport crates between a downwards running conveyor and an upwards
running conveyor.

4. A method according to claim 1, *characterised* in that the influence of the
gas for stunning the animals is moreover adjusted by varying the gas concentration at
varying levels in the stunning chamber as increasing gas concentration is applied in a
downwards direction in the stunning chamber.

5. A system for gas stunning of poultry for slaughter cf. to the method according to
claim 1 and comprising a substantially horizontal conveyor which is arranged for re-
ceiving and introducing transport crates comprising poultry for slaughter to a gas-filled
stunning chamber in which a downwards running conveyor is arranged, which is ar-
ranged for successively conveying transport crates downwards in the stunning cham-
ber, and an upwards running conveyor which is arranged for successively conveying
the transport crates upwards and out of the stunning chamber, *characterised*

in that the downwards running conveyor is constituted by a number of mainly vertical conveyors, each comprising mutually interacting endless chain conveyors with carrying means arranged for supporting opposite sides of said transport crates for downwards conveying of these in the stunning chamber, that the upwards running conveyor is constituted by a substantially vertical conveyor comprising mutually interacting endless chain conveyors with carrying means arranged for supporting opposite sides of said transport crates for upwards conveying of these from the stunning chamber, and that between the said downwards and upwards running conveyors there is a substantially horizontal conveyor arranged for providing the horizontal conveying of the transport crates through the stunning chamber, which latter conveyor furthermore is adapted as an entity for being lifted and lowered respectively between levels with varying gas concentrations in the stunning chamber.

6. A system according to claim 5, *characterised* in that the stunning chamber is divided into a number of horizontal zones, by way of example three zones, viz. a lower zone having a gas concentration (CO_2) of 50% (app. 45-51%), an intermediate zone having a gas concentration (CO_2) of 25% (app. 32-46%), and an upper zone having a gas concentration (CO_2) of 5% (app. 8-10%), as sensors are provided in level with the upper zone limit for monitoring and control respectively of the gas concentration in the said zones.

7. A system according to claim 5, *characterised* in that it comprises a PLC control system for controlling a number of mutually dependent mechanical parameters, by way of example speed of vertical conveyors, setting (176 seconds), number of transport crates in stunning zones, setting (tunnel) (10 pcs.), cycle between crates in stunning zone, setting (17.6 seconds), number of chickens per crate, setting (43 pcs.), speed of slaughtering line, setting (148 animals/minute), speed cycle between crates in stunning zone, actual (17.4 seconds), speed of slaughtering line, actual (142 animals/minute).